

Title (en)
Mechanical positioning device and method

Title (de)
Mechanische Positionierungsvorrichtung und Verfahren

Title (fr)
Dispositif et procédé de positionnement mécanique

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Application
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Abstract (en)
The invention pertains to a reference positioning system for positioning a workpiece (5) in a three-dimensional coordinate system, the reference positioning system comprising a first positioning unit (1) for positioning a first alignment feature (10) of the workpiece (5) in a first dimension (X), in a second dimension (Y) and in a third dimension (Z), comprising a first centring pin (11) and a first reference level locator (12), a second positioning unit (2) for positioning a second alignment feature (20) of the workpiece (5) in the second dimension (Y) and in the third dimension (Z), comprising a second centring pin (21) and a second reference level locator (22), and a third positioning unit (3) for positioning a third alignment feature (30) of the workpiece (5) in the third dimension (Z), comprising a third reference level locator (32), characterized in that for levelling the first and second alignment features (10, 20) in a reference level the first and second centring pins (11, 21) are movable in the third dimension (Z) in such a way that the reference level is traversable by at least a part of the first and the second centring pin (11, 21). Furthermore, the invention pertains to a method for positioning and orienting a workpiece (5) in a three-dimensional coordinate system by means of said reference positioning system, and to a computer programme product for execution of said method.

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Citation (applicant)
• DE 19544240 A1 19960605 - VOLKSWAGEN AG [DE]
• LICHTENBERG, THILO: "A flexible vehicle measurement system for modern automobile production", MASTER THESIS AT THE FACULTY OF ENGINEERING, 2006

Citation (search report)
• [AD] DE 19544240 A1 19960605 - VOLKSWAGEN AG [DE]
• [A] DE 102010030468 A1 20111229 - BAYERISCHE MOTOREN WERKE AG [DE]
• [A] DE 20012052 U1 20001012 - SIEMENS AG [DE]
• [A] DE 102010007379 A1 20110811 - AUDI AG [DE]

Cited by
DE102014205612B4; EP4070916A1; CN105388839A; FR3081219A1; CN105258636A; WO2015068152A1

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